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Recycled water uses, environmental sociology, and identity theory in San José

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RECYCLED WATER USES, ENVIRONMENTAL SOCIOLOGY, AND IDENTITY THEORY IN SAN JOSÉ

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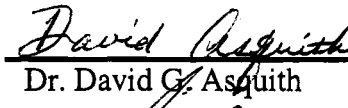

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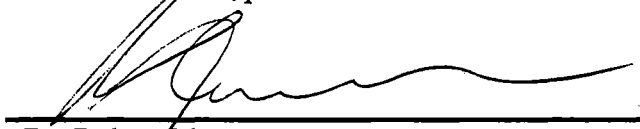

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ABSTRACT

RECYCLED WATER USES, ENVIRONMENTAL SOCIOLOGY, AND IDENTITY THEORY IN SAN JOSÉ

By Pierce C. Parker

A survey conducted in San José, California in the summer of 2005 for Friends of Guadalupe River Park and Gardens reveals that the vast majority of the 1,033 respondents are unaware of the current use of recycled water. While gardeners are more knowledgeable about it, respondents with higher levels of involvement in community garden programs have lower support and are more likely to be white, older, and better educated. Accidentally ingesting toxics and long term health effects are the patterns for their fear. Hypotheses are tested to see whether gender or race has any significant relationships with support levels for using recycled water. There is no such link. However, multivariate regression analysis shows that years of education and level of involvement in community garden programs are significant predictors. Based on these findings, an alternate independent variable is suggested for the second longitudinal study.

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INTRODUCTION

"It is only natural that man's deepest passions are stirred by any matter having to do with the possession, control, and distribution of water – without which he would die."

"Recycling and desalination will be argued in the future as importation and percolation have been argued in our past."

- Harry Farrell, a columnist at *San José Mercury News* on March 8, 1981 in the introduction of the book, *Water in the Santa Clara Valley: A History.*

While many regions have shortages of clean water, they have an abundance of wastewater (Adler and Mace, 1990). Thus, as population increases, it would be only logical to reuse the wastewater, as Harry Farrell had predicted nearly a quarter of a century ago. Used water goes by several different names: "Gray water" (Kourik, 1988:3); "reclaimed wastewater" (Hart, 1981:95); and "recycled wastewater" (Adler and Mace, 1990) – just to mention a few. Whatever it is called, it is water – while not clean enough to drink – with adequately treated sewage waste that can be reused as irrigation water for crops, forests, and parks, and to recharge ground-water deposits (Adler and Mace, 1990). In this study, the terms will be used interchangeably throughout.

Wastewater reuse is not a new idea. There are more than 1,000 wastewater reuse projects in the United States in which water is reused for irrigation, industrial cooling and processing, and ground-water recharge (Adler and Mace, 1990). For example, the City of Clearwater in Florida has a city government division exclusively dedicated for this task. In the Los Angeles area, about 30% of the sewage water produced by the county – 160 million gallons per day out of 530 million gallons – is treated in levels clean enough for reuse – irrigation of parks, aquifer recharge, and industrial uses (Adler and Mace, 1990).

Merrett observes the advantage of recycled water to the consumer and to the environment in that such internal reuse necessitates less primary abstraction to meet consumption requirements (1997: 12). Unfortunately, though, nationwide, only about 0.2% of water use in the United States is met by reclaimed water (Adler and Mace, 1990). By comparison, reclaimed water met 4% of Israel's total water needs in 1980, and reached approximately 16% by the year 2000 (Adler and Mace, 1990). In the U. S., distribution cost and the lack of adequate conveyance systems are the primary reasons why less than half of this wastewater is reused (Adler and Mace, 1990).

The City of San José today – indeed the State of California – is a very different place from that Harry Farrell had once known in 1981. California's population has grown enormously since 1981, up from about 23.5 million to about 35 million in 2002 (Carney and Alcerro, 2003: 32). It is the most populous and fastest growing American state (Carney and Alcerro, 2003: 32). According to a recent report by the U. S. Census Bureau, furthermore, the pecking order of the most populous U. S. cities has changed. The report, issued on June 30, 2005, shows in 2004, San José, with an estimated population of 904,522 is the nation's tenth-largest city, overtaking Detroit with its smaller population of 900,198. As San José's population continues to grow, the demand for fresh, clean water also increases. Thus the benefits of using reclaimed water becomes acutely obvious: It saves millions of gallons of potable water each day; its use for non-drinking purposes is considerably less expensive; it delays and even obviates the need for developing costly new water sources and building treatment plants; and it reduces the costs for fertilizing, for reclaimed water is already rich in phosphorus and nitrogen. *Sub*

specie aeternitatis, properly dispersed gray water is safe, although never, of course, as safe as chlorinated, sanitized city water (Kourik, 1988: 7). The soil's rich array of beneficial bacteria has an amazing capacity to filter and purify dirty water, if not too much is added to a given volume of soil at any one time (Kourik, 1988: 7).

Nevertheless, considerable limitations – economic, distribution, and public health – were revealed in the drive toward large scale use of reclaimed water in Santa Clara Valley in the late 1960s and 1970s (Melton, 1981: 118 – 119), but as early as 1980, the Santa Clara Valley Water District authorities did not consider reclaimed water to be outside its water supply plans (Melton, 1981: 122). Unfortunately, Santa Clara Valley has had a long history of public resistance to reclaimed water. As early as in 1950, the Santa Clara Valley Water Conservation District supported the concept, but the public was against using reclaimed wastewater (Hart, 1981: 94 - 95), and the health authorities feared that the underground water basin would become polluted (Hart, 1981: 94 - 95).

Now, one organization is working to change all that.

Friends of Guadalupe River Park and Gardens

Friends of Guadalupe River Park and Gardens (FGRPG) is a 501 (c)(3) nonprofit community organization that actively participates in development decisions, offers public outreach, assists with maintenance, and provides educational programs to bring people into the park in San José. Guadalupe Gardens is a long-term development project in San José, whose city council approved its master plan in April 2002. The master plan calls for the creation of a diverse mixture of public gardens and open spaces on 120 acres of city-owned land in the downtown area. Guadalupe Gardens is situated directly south of

the San José International Airport and is located next to the Guadalupe River Park. Three major freeways – U. S. Highway 101 on the east, U. S. Interstate 280 to the south, and Highway 17 (880) on the west – roughly form a triangle, and the proposed community garden sites in Guadalupe Gardens occupy the northern tip of this freeway triangle, whose longest distance subtends approximately three miles (4.827 kilometers) from the garden site. The City of San José owns Guadalupe Gardens, and the San José City Parks, Recreation and Neighborhood Services Department (PRNS Department) manages the Gardens.

The Guadalupe Gardens master plan also mandates that the entire Gardens be irrigated with recycled water, as a major recycled water pipeline already runs through the center of the Gardens site. The Guadalupe Gardens master plan envisions a two-acre community garden site to be situated on the west side of Walnut Street between Taylor and Asbury Streets. This strategic location has street access for parking, public restrooms nearby, and it would allow the community garden site to be developed independently of other larger areas of the Gardens.

Where private open space is severely limited in urban areas like those of downtown San José, community gardens on public land have become popular recreational activities. San José City PRNS Department already operates seventeen such community garden sites, and their popularity demonstrates increasing public interests in small-scale horticultural cultivation on individually manageable plots of land and garden-grown produce. Because none of these seventeen community gardens are located near Guadalupe Gardens, however, the creation of a community garden facility in Guadalupe

Gardens will enable the residents in the nearby neighborhoods and in the high density housing in downtown San José to participate in gardening experiences.

The parties working together to implement the Guadalupe Gardens project are the San José City PRNS Department, the San José City Environmental Services Department, South Bay Water Recycling, the Santa Clara Valley Water District, the San José Conservation Corps, the University of California Cooperative Extension, San José State University, Department of Sociology, the Master Gardeners of Santa Clara County, and FGRPG.

A preliminary arrangement of the community gardens at Guadalupe Gardens has already been completed, and design of the pipeline that will transport the recycled water to the garden site is near completion. Construction of the pipeline was scheduled for October 2005, and the community garden opened for new gardeners in spring 2006.

STATEMENT OF THE RESEARCH PROBLEM

In its application for grants to the WateReuse Foundation in Alexandria, Virginia, on April 28, 2004, FGRPG committed itself to three-year longitudinal studies on changes in gardeners' attitudes towards recycled water. This study would solicit concerns and questions that potential gardeners might have about recycled water when the community garden first opens in Guadalupe Gardens, and then measure attitudinal changes for the following three years after their initial involvement in the community gardens and recycled water use. Many citizens continue to have concerns about the safety of recycled water and question whether they themselves or their plants might be harmed, not unlike the current adverse phenomenon seen in the European Union against genetically modified foods. The difficulty is simple ignorance and the resulting caution (Henley, 1981: 130). Not enough is known of the effects on human health of long-term ingestion of the exotic chemicals, "trace organics" and rare metals our industries put in their sewers (Henley, 1981:130), but by producing vegetables and plants with recycled water and consuming them at home, the participating community gardeners can offer eyewitness accounts about the safety and the high quality of recycled water. Furthermore, other interested gardeners may come to Guadalupe Gardens to survey working plots and share information with other gardeners who use recycled water.

By studying the attitudes of gardeners over the three-year period, FGRPG may also provide critical information about how the public perceives the relative risks and benefits of recycled water and how its views might evolve over time. The data from this

study will also become useful in generating recommendations for implementing similar recycled water use programs in other communities throughout the world.

Fear of the unknown is a universal human behavior, but the previous reports on the public resistance in Santa Clara Valley against the use of recycle water for irrigation (Hart, 1981 and Melton, 1981) are not sufficiently specific enough to forge a sophisticated marketing campaign to overcome any public fear. This study thus seeks to identify the specific elements of the public resistance against recycled water use. This study further aims to be the first of the three longitudinal studies that are to be conducted over the three-year period and addresses whether demographic factors such as gender and race (independent variables) might have any statistical significance in attitude towards the use of recycled water as a choice in community gardens (dependent variable). As a supplement, this study also makes comparative analyses between the data collected by Michele Young (2002) nearly five years ago in 2000 and 2001 and the fresh data collected in the summer of 2005 for this study. We will first focus on the hypotheses proper and then present all other findings in Supplemental Analyses, which are exploratory. Finally, this study will employ a multivariate regression analysis with the following variables, which are also for exploratory purposes: level of education, gender, age, race, previous experience in gardening, and the attitude towards the use of recycled water as a choice in community gardens.

Literature Review

Sociologists have been studying a number of social issues regarding the environment. In the past, research studies dealt with environmental activism, connections between vegetarianism and environmentalism (Kalof, Dietz, Stern, and Guagnano, 1999), environmental radicalism, pro-environment attitudes and behaviors (Stets and Biga, 2003), environmental issue education and awareness, and recycling programs (Derksen and Gartell, 1993). Approaching the topics from a sociological perspective, these studies have employed issues of social structure, agency, identity, institutions, community, values, gender, race, and other common social parameters in their analyses.

A common sense intuition tells us that pro-environmental attitudes beget pro-environmental behaviors, but many studies in the past have shown that this is not necessary the social reality (Derksen and Gartell, 1993; Uneki and Holland, 1998; Theodori and Luloff, 2002; and Stets and Biga, 2003). Just as they are about anti-racist attitudes, people often times express that they should be careful about the environment, but ultimately these benevolent attitudes rarely translate into real actions.

Stets and Biga (2003: 418) observe that the relationship between pro-environmental attitudes and behavior is, in part, spurious due to the influence of the environment identity and offer individual agency as the true cause of pro-environment behavior. Although it is mostly determined by the availability of convenient recycling programs and the existence of pro-environment community norms, Derksen and Gartell (1993) further prove that recycling behavior is somewhat more prevalent among those with pro-environment attitudes.

Environmental Sociology and Identity Theory

Environmental sociologists have been grappling with the question as to what exactly compels a person to act upon his or her pro-environmental attitudes. Some have theorized level of education, awareness, community norms, easy accessibility, agency, structure, and identity as the main determinants. Recently, a school of thought, so-called Identity Theory, has been gaining a lot of traction in providing plausible answers to this question. Schultz and Zelezny (2003: 126) determine that a self-transcendent identity paves a way to pro-environmental attitudes and behaviors. This "self-transcendent" identity is closely associated with such values as honesty, forgivingness, helpfulness, loyalty, and broad-mindedness (Schultz and Zelezny, 2003: 128). Stets and Biga (2003: 419) further assert that individual agency plays a significant role in determining at least pro-environment behavior, but not necessarily pro-environmental attitudes. Their brand of Identity Theory equates agency with identity, and then identity as a critical influence on behavior (Stets and Biga, 2003: 398).

An identity is a set of meanings attached to the self that serves as a standard or reference that guides behavior in situations (Stets and Biga, 2003: 401). Individuals derive a view of themselves in the environment based on meaningful feedback from others (Stets and Biga, 2003: 402). A social actor's identity model functions by controlling behavior to the social situation in an effort to modify the cognitive input to align with the internal identity standard, or we can say that it works by having the aim of matching environmental stimuli to the internal identity standard. This process is coined "self-verification" (Burke and Stets, 1999). When there is no self-verification, behaviors

are changed to counteract the situational discrepancies and readjust perceptions to fit the internal identity standard. Typically, identity theorists have examined individuals' role identities – that is, the meanings individuals attach to themselves as an occupant of a role in the social structure, such as being male, female, student, friend, or worker (Stets and Burke, 2002). Although the research findings are somewhat ambiguous, past environmental studies have indicated that women are more likely to show higher levels of concern for the environment than men (Davidson and Freudenburg, 1996). The most plausible reason for this phenomenon is that women tend to care more about the safety and health of their family members and communities than do men (Davidson and Freudenburg, 1996). The possible reasons for the mixed results for gender and pro-environmental outcomes might have to with the fact that social actor's pro-environmental behaviors and attitudes have more to do with the meanings that the social actor imputes to herself as feminine or masculine – or her gender identity – and less to do with being a member of a social category as a woman or man. Indeed, Eagly (1987) observes that masculinity is "agency-focused" while femininity is "communion-oriented." She further notes that masculinity emphasizes independence and competition while femininity highlights a concern for others and sensitivity (Eagly, 1987). Since Identity Theory assumes that a social actor chooses attitudes and behaviors that are same in meaning to the meanings of her internal identity standard (Burke and Reitzes, 1981), we would expect to see more pro-environmental attitudes and behaviors to be associated with femininity than with masculinity. Previous research has proven that gender identity, not just "gender," is a good indicator of behavior (Stets and Biga, 2003: 405). Unfortunately,

we do not have the operational means to measure "gender identity" as such on the SAQ instrument that we used for this study, thus for the purpose of this study, we will substitute Question 2 (SEX/GENDER) to mean gender identity as proxy.

An intricate interplay among pro-environment behavior, agency, identity, awareness, accessibility, community norms, and other factors come to light in environmental sociology studies. Awareness is a prerequisite for agency, which culminates in pro-environment actions, while accessibility and community norms might afford the opportunities for awareness creation and agency. It is often said that individual behavior is dictated by the social structures, and thus any research study in environmental sociology needs to integrate macro and micro approaches. In their version of Identity Theory, Stets and Biga (2003: 417 – 420) emphasize the fact that social interaction and social structure shape social actor's identity and agency.

Finally, the findings by Derksen and Gartell (1993) indicate that community-level organization of recycling programs and easy access to such programs increase people's propensity to recycle. Individual's pro-environmental awareness and attitudes might not translate into pro-environment behavior unless these behaviors are socially acceptable first and recycling programs are easily accessible to those community members who wish to participate in them (Derksen and Gartell, 1993: 435). They further suggest, "if the macro context is changed to provide a mechanism for adopting the behavior, the probability of individual action should also increase because the effort required on the part of any single individual decreases" (Derksen and Gartell, 1993: 435). "In order for pro-environment awareness and attitudes to lead to pro-environment behavior, the

structure of society must change so that the barriers to pro-environment behavior may be removed" (Derksen and Gartell, 1993: 440). Their findings are highly material in this study because the attitude toward the use of recycled water in community garden programs would fit into this exact conceptual mold. Thus the issue of accessibility and convenience would also play a major role on this topic along with Identity Theory. We can safely postulate that convenience begets action, especially in the use of recycled water, but since so much of the past research shows conflicting results, it is critical to conduct more research.

Stets and Biga (2003) employed Identity Theory (Burke, 2003) to hypothesize that females will be more likely than males to report pro-environmental attitudes and pro-environmental behavior (406), but their results were contradictory, and there was no strong link between one's membership in a gender category and environmental behavior (418 – 419). Furthermore, "caring" is thought to be an attitude that women adopt more widely than do men (Cancian and Oliker, 2000; and Gilligan, 1982). Stated in another way, the roles that women occupy in our society encourage a concern for the well-beings of other people (Cancian and Oliker, 2000; and Eagly, 1987). These roles might include being mother, grandmother, wife, sister, daughter, primary caretaker, teacher, nurse, food preparer for family members, etc. This concern would foster pro-environmental attitudes and pro-environmental behavior.

HYPOTHESES

If we were to consider the supportive attitude towards the use of recycled water as a choice in community gardens as a pro-environmental attitude, we could slightly modify Stets and Biga's hypothesis (2003: 406) and test it once again in this study. Thus, for Hypothesis 1, Question 16 (SUPPORT RECYCLED WATER AS A CHOICE IN COMMUNITY GARDENS?) serves as the dependent variable and Question 2 (SEX/GENDER) functions as the independent variable (see the questionnaire in Appendix B). It is nearly impossible to measure respondent's actual level of "gender identity" in the data set we have, thus we will have to use as sufficient proxies and for the purpose of this study that "female" denotes "femininity" and "male" represents "masculinity." Having defined the dependent variable and the independent variable, we can formally state the first hypothesis as follows:

Hypothesis 1 (H_1): Women are more likely than men to support the use of recycled water as a choice in community garden programs.

According to Dietz, Kalof, and Stern (2002), there are significant gender differences in one value priority – altruism – with women reporting a substantially higher priority for this value than men (361). This is consequential for the literature on gender and environment, since altruism is the value most closely related to environmentalism in both theoretical and empirical work (Dietz, Kalof, and Stern, 2002: 361). Furthermore, Kalof, Dietz, Stern, and Guagnano (1999) found that the strongest predictor of vegetarianism as a dietary choice was the belief that vegetarianism is beneficial to the environment (500), while Worsley and Skrzypiec (1998) discovered that both

vegetarianism and support for vegetarian practices have been found to be more prevalent among women than men in a South Australian teenage sample. That study concluded that both self-reported vegetarianism and social support for vegetarianism was largely a female phenomenon. Taken together, these two studies indicate that women tend to support vegetarian practices because they are more pro-environment than men. Indeed, Kalof, Dietz, Stern, and Guagnano's (1999) conclusion was that the only significant predictor of vegetarianism as a dietary choice was the belief that a vegetarian diet is less harmful to the environment than a diet that includes meat, a belief held more widely by women than men (506).

Also noteworthy was the finding that black respondents were more likely than whites to endorse the belief that vegetarianism helps prevent cruelty to farm animals, benefits personal health, and is *beneficial to the environment* (Kalof, Dietz, Stern, and Guagnano, 1999: 508). Thus, we would like to see if these findings could be duplicated in our study by hypothesizing the following second hypothesis with a slight modification: **Hypothesis 2 (H_2):** African-Americans are more likely than whites to support the use of recycled water as a choice in community garden programs.

Altruism and environmental concerns are critical factors, but Tronto (1987) adds a new mechanism of social subordination. Tronto (1987) argues that the moral views of women and minorities are similar, perhaps because of similar circumstances of social subordination, thus possibly their attitudes toward the environment, but we can fine-tune and test her argument in a separate third hypothesis still. Flynn, Slovic, and Mertz (1994) found that white men perceive environmental risks as substantially lower than either

women or nonwhites, suggesting that social factors such as power and alienation determine risk perceptions. Again, with a slight modification, we can test Flynn, Slovic, and Mertz's (1994) findings in this study as follows in the third hypothesis:

Hypothesis 3 (H_3): White men are less likely than either women or nonwhites to support the use of recycled water as a choice in community garden programs.

In Hypothesis 3, the dependent variable remains as Question 16 (SUPPORT THE USE OF RECYCLED WATER AS A CHOICE IN COMMUNITY GARDEN PROGRAMS?), but the independent variable is "white male," an interacting variable from Question 6 (RACE/ETHNICITY) and Question 2 (SEX/GENDER).

Hart (1981) states that as early as in 1950, the Santa Clara Valley Water Conservation District supported the (recycled water) concept, but the public was against using reclaimed wastewater (94 – 95). The three hypotheses formulated above will provide some information as to whether sex/gender and race/ethnicity determine support for the use of recycled water as a choice in community garden programs, while at the same time re-testing the hypotheses formulated by other environmental sociology theorists in regards to Identity Theory and pro-environmental attitudes with a slight modification.

Further arguments in support of using these independent variables are that race or ethnicity always is one of the most common universal factors to test perceptions of social reality, and it is also primary cultural identity on which we categorize each other in almost all social relational contexts (Ridgeway, 2004: 522). Race alone, however, may not tell the whole story, so we use sex or gender as another independent variable in

Hypothesis 1. If these hypotheses are correct, we will be able to better understand the social reality as to whether women and blacks are more likely to support the use of recycled water as a choice in community garden programs in line with their supposed pro-environmental attitudes and whether white males are indeed least likely to support the use of the recycled water because of their supposed lack of pro-environmental attitudes.

Finally, although they are not part of the hypotheses, other key independent variables are also included in regression analyses for exploratory purposes. These variables include involvement in community garden programs (Question 1), age (Question 3), and years of school completed (Question 5).

METHODS

Sampling

The survey used in this study was administered in the summer of 2005 at parks, shopping malls, supermarkets, libraries, and large home-improvement stores throughout the City of San José and Santa Clara County. The population for this study is the general public and is not just those who are concerned with the recycled water issues. Thus, it also includes those who identify themselves as practicing gardening as hobby, who have plots in the community gardens programs, who reside in the targeted area, who are potential gardeners, and who may have concerns about garden water run-off, but the largest population for this study can be defined as the adult public in a triangular target area bounded by three freeways (U. S. Highway 101 on the east, U. S. Interstate 280 to the south, and Highway 17 (880) on the west) in the City of San José and Santa Clara County. Supplemental randomly sampled data were collected from some county residents by contacting them by phone with known area code prefixes and random-digit phoning in the same target area, but these are not compared against the rest for consistency because they make up less than 1% of the total. Furthermore, current garden plot leasers and those on garden waiting lists were also contacted by email, mail, or phone. This definition of the population included mainly respondents representing the general public, with the overwhelming majority of the population made up of those having no material involvement with any of the community gardens programs. In order to minimize any biases emanating from this sampling method, we will attempt to control for them in analyses wherever possible.

While we made an attempt to randomly select locations in the target area, we did not have an actual population list with which to work, so the sample in this study was selected with a nonprobability sampling method. By law of probability, a random selection of elements would guarantee a good representation of the entire population. The random sample selection method gives every member of the population an equal chance to be selected, and no bias of any kind is built in. Nonprobability sampling, on the other hand, refers to processes of case selection other than random selection (Singleton and Strait, 2005: 132). Without random selection, nonprobability samples have two basic weaknesses: (1) They do not control for investigator bias in the selection of units, and (2) their pattern of variability cannot be predicted from probability sampling theory, thereby making it impossible to calculate sampling error or to estimate sample precision (Singleton and Strait, 2005: 132). However, it must be noted that efforts were made to collect data at randomly selected locations and at randomly selected times, thus we will use them as though they were randomly collected in our analyses.

The populations in the City of San José and Santa Clara County are highly heterogeneous in all aspects – race, ethnicity, religion, income, political affiliation, etc., and the city makes an ideal population to test the hypotheses presented in this study. Although done so at randomly selected times and places, this study employed mostly convenience sampling (CS) method because it is a fairly economical and efficient way of conducting a survey on a relatively large and heterogeneous population. While the CS method offers the advantage of not requiring a complete list of the entire population, it is less precise. In order to decrease the rate of sampling error, however, this study increased

the number of respondents to the operationally feasible maximum of 1,033, and selection of survey sites was somewhat random to ensure a good representation of the population.

Using the prescribed lists of parks, shopping malls, supermarkets, libraries, and large home-improvement stores in the City of San José and Santa Clara County, Linda Liu, a graduate researcher in the San José State University Environmental Studies Department, student assistants, and I were sent out to the actual sites to administer the survey. The respondents in these sites were given self-administered questionnaires (SAQs). The SAQ format was chosen precisely because it was a highly efficient, economical, and expeditious means to conduct a scientifically valid survey, especially on a localized population like that of the respondents in the City of San José and Santa Clara County.

Procedure

Respondents were told that they were participating in a local study about recycled water. As part of the survey, they were asked about their opinions and attitudes on a wide-range of topics and issues, including long-term unknown health effects of recycled water and ingesting toxics taken up by plants or produce from recycled water. The survey took 15 to 20 minutes to complete. The survey was also available in Spanish. Since this survey dealt with human subjects, a consent form was also prepared, as shown in the Appendix. The respondents were told that if they chose not to participate in the survey, they were free to do so, and there were absolutely no penalty for not participating. The survey was completely voluntary, confidential, and no name was required to assure

anonymity and honesty. An actual sample of the questionnaire used is attached as Appendix B.

Instrument

The survey instrument used to collect the data was formulated from the questions submitted by a Sociology 104, Quantitative Research Methods class; Dr. David G. Asquith (Associate Professor of Sociology at San José State University); Kary Wilson (Education Coordinator at FGRPG); Kathleen Muller (Executive Director of FGRPG), Linda Liu (a graduate student in the SJSU Environmental Studies Program), and me. A general topic – use of recycled water – was agreed upon at the beginning of the semester by the entire class, and specific questions were then submitted to the instructor, Dr. David G. Asquith. Duplicate or similar questions were combined, and thirty-four questions were debated, edited, agreed upon, and finalized by the entire class twice for their clarity, validity, and reliability. There were also inputs from various other San José city departments and from the WateReuse Foundation. The four-page questionnaire contained a total of twenty-two close-ended, Likert-scale response questions in the following areas: 1) attitudes toward the use of recycled water in general; 2) attitudes toward the use of recycled water specifically to irrigate parks, school grounds, and community gardens in San José; 3) whether respondents lived with children under the age of eighteen; 4) whether they gardened regularly as a hobby; 5) how much they heard about recycled water previously; 6) how recycled water might be used; 7) what concerned them most about the use of recycled water; 8) whether they were already aware that recycled water is currently used to irrigate food crops in California; 9) which

media would be the best ways to inform the public about the approved uses for recycled water; and 10) background and demographics. Four questions dealing with background and demographics were purposely placed at the beginning of the questionnaire. It was also announced on the SAQ that the results of the survey was available upon request to anyone who wished to receive them. In recognition of the presence of a large Latino community in San José, the questionnaire was also translated into Spanish by Professor José Bautista in the San José State University Psychology Department and by English-fluent students who speak Spanish as their native language. A total of 1,033 SAQs was collected and coded into the SPSS software program. Among the questions contained in the survey were the dependent variable (Question 11) and the two independent variables (Questions 2 and 6).

Operational Definitions

The actual questions by which dependent variable and independent variables are measured are as follows:

Question 1 (exploratory variable): "Involvement with community garden program?" Possible responses and coded numbers into SPSS are as follows:

Once, not now (coded 1, then recoded to 2);

Have plot now (coded 2, then recoded to 4);

On waiting list (coded 3); and

No connection (coded 4, then recoded to 1)

Question 2 (independent variable): "Sex or Gender?" Possible responses, coded, and recoded numbers into SPSS are as follows:

Male (recoded to 1 as dummy variable);

Female (recoded to 0)

Question 3 (exploratory variable): "Age?" Possible responses and coded numbers into SPSS are as follows:

Under 18 (coded 0);

18 – 24 (coded 1);

25 – 34 (coded 2);

35 – 44 (coded 3);

45 – 54 (coded 4);

55 – 64 (coded 5);

65 – 74 (coded 6);

75 – 84 (coded 7); and

85 or over (coded 8)

Question 5 (exploratory variable): "Years of school completed?" Possible responses and coded numbers into SPSS are as follows:

0 (coded 0);

2 (coded 2);

3 (coded 3);

4 (coded 4);

6 (coded 6);

7 (coded 7);

8 (coded 8);

9 (coded 9);

10 (coded 10);

11 (coded 11);

12 (coded 12);

13 (coded 13);

14 (coded 14);

15 (coded 15);

16 (coded 16);

17 (coded 17);

18 (coded 18);

19 (coded 19); and

20 (coded 20)

Question 6 (independent variable): "With which ethnic background do you identify?"

Possible responses and coded and recoded numbers into SPSS are as follows:

African American or black (coded 1; then recoded to 0 as dummy variable for other categories)

Asian or Pacific Islander (coded 1; then recoded to 0 as dummy variable for other categories)

Euro-American or white (coded 1; then recoded to 0 as dummy variable for other categories)

Latino or Hispanic (coded 1; then recoded to 0 as dummy variable for other categories)

Other Americans (coded 1; then recoded to 0 as dummy variable for other categories)

Question 16 (dependent variable): "Do you support the use of recycled water as a choice in community garden programs?" Possible responses and coded numbers into SPSS are as follows:

Strongly oppose (coded 0)

Oppose (coded 1)

Not sure (coded 2)

Support (coded 3)

Strongly support (coded 4)

Slight recoding was necessary to test the hypotheses. In Question 16, since "Strongly oppose" (57) and "Oppose" (59) responses were relatively low, they are combined as "Oppose." Since the categories are not in ratio, this also eliminated the unnecessary "0" coding. Thus after recoding, there are now only four categories of responses for Question 16:

Oppose (recoded as 1)

Not sure (coded 2)

Support (coded 3)

Strongly support (coded 4)

RESULTS

The results from the survey are presented below in the order of demographics, recoded frequencies, and dichotomous independent variables. SPSS coded numbers are in parentheses.

Demographics

Table 1. SEX/GENDER (Question 2: Independent variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
Male (1)	515	49.9	50.1
Female (2; then to 0)	513	49.7	49.9
Total	1028	99.5	100.0
Missing (99)	5	0.2	
TOTAL	1033	100.0	

Table 2. RACE/ETHNICITY (Question 6: Independent variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
African American (1)	94	9.1	9.2
Asian American/PI (2)	186	18.0	18.2
White (3)	394	38.1	38.6
Latino (4)	306	29.6	30.0
Other (5)	40	3.9	3.9
Total	1020	98.7	100.0
Missing (99)	13	1.3	
TOTAL	1033	100.0	

Table 3. AGE (Question 3: Exploratory variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
Under 18 (0)	18	1.7	1.7
18 – 24 (1)	288	27.9	28.0
25 – 34 (2)	235	22.7	22.8
35 – 44 (3)	183	17.7	17.8
45 – 54 (4)	149	14.4	14.5
55 – 64 (5)	85	8.2	8.3
65 – 74 (6)	46	4.5	4.5
75 – 84 (7)	21	2.0	2.0
85 or over (8)	5	0.5	0.5
Total	1030	99.7	100.0
Missing (99)	3	0.3	
	1033	100.0	

Table 4. YEARS OF SCHOOL COMPLETED (Question 5: Exploratory variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
0 (0)	3	0.3	0.3
2 (2)	3	0.3	0.3
3 (3)	3	0.3	0.3
4 (4)	2	0.2	0.2
6 (6)	10	1.0	1.0
7 (7)	3	0.3	0.3
8 (8)	11	1.1	1.1
9 (9)	8	0.8	0.8
10 (10)	15	1.5	1.5
11 (11)	26	2.5	2.5
12 (12)	175	16.9	17.1
13 (13)	89	8.6	8.7
14 (14)	160	15.5	15.6
15 (15)	126	12.2	12.3
16 (16)	239	23.1	23.3
17 (17)	38	3.7	3.7
18 (18)	51	4.9	5.0
19 (19)	7	0.7	0.7
20 (20)	55	5.3	5.4
Total	1024	99.1	100.0
Missing (99)	9	0.9	
TOTAL	1033	100.0	

Table 5. INVOLVEMENT WITH COMMUNITY GARDEN PROGRAM (Question 1: Exploratory variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
Once, not now (1)	55	5.3	5.4
Have plot now (2)	118	11.4	11.5
On waiting list (3)	24	2.3	2.3
No connection (4)	829	80.3	80.8
Total	1026	99.3	100.0
Missing (99)	7	0.7	
TOTAL	1033	100.0	

Table 6. SUPPORT RW AS CHOICE IN GARDENS (Question 16: Dependent variable)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
Strongly oppose (0)	57	5.5	5.6
Oppose (1)	59	5.7	5.7
Not sure (2)	299	28.9	29.1
Support (3)	254	24.6	24.7
Strongly support (4)	358	34.7	34.9
Total	1027	99.4	100.0
Missing (99)	6	0.6	
TOTAL	1033	100.0	

Recoded Frequencies and Dichotomous Independent Variables

In Question 1 (INVOLVEMENT WITH COMMUNITY GARDEN PROGRAM), the sequence of categories does not reflect the increasing level of involvement, thus the sequence is rearranged and recoded according to the increasing level of involvement. After the recoding, a higher recoded number indicates higher level of involvement as shown below:

Table 7. INVOLVEMENT WITH COMMUNITY GARDEN PROGRAM (Question 1 - *recoded*)

(recoded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
No connection (1)	829	80.3	80.8
Once, not now (2)	55	5.3	5.4
On waiting list (3)	24	2.3	2.3
Have plot now (4)	118	11.4	11.5
Total	1026	99.3	100.0
Missing (99)	7	0.7	
TOTAL	1033	100.0	

In Question 2 (SEX/GENDER), in order to create a dichotomous independent variable, or so-called "dummy" variable, "Male" is recoded to "1" and "Female" to "0." Likewise, in order to create dichotomous independent variables from all the categories in Question 6 (RACE/ETHNICITY), each category is recoded to "1" once while the rest is set to "0." This procedure is then repeated with each category.

In Question 16 (SUPPORT RECYCLED WATER AS CHOICE IN GARDENS), "Strongly oppose" category is combined with "Oppose," and there are now only four separate categories after recoding: "Oppose," "Mixed feelings or not sure," "Support," and "Strongly support." This is because the first two categories have relatively low numbers individually, and they are combined to run the hypothesis tests more smoothly.

Table 8. SUPPORT RECYCLED WATER AS CHOICE IN GARDENS (Question 16: Dependent variable – *recoded*)

(coded numbers in parentheses)	FREQUENCY	PERCENT	VALID PERCENT
Oppose (1)	116	11.2	11.3
Not sure (2)	299	28.9	29.1
Support (3)	254	24.6	24.7
Strongly support (4)	358	34.7	34.9
Total	1027	99.4	100.0
Missing (99)	6	0.6	
TOTAL	1033	100.0	

For Hypothesis 3, in order to create an artificial dichotomous, interactant, independent "White male" variable, the "Male" dummy variable is multiplied by the "White" dummy variable. No recoding is required for age - which is generally continuous variable although it is categorized in our analysis - and years of school completed because they are continuous, interval variables.

HYPOTHESES TESTS

The three hypotheses are tested with bivariate correlations as shown in Table 9. H_1 states that women are more likely than men to support the use of recycled water as a choice in community garden programs; H_2 states that African-Americans are more likely than whites to support it; and H_3 states that white men are less likely than either women or nonwhites to support it.

Table 9. Bivariate correlations (*N*)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age	1.00 (1030)										
2. Sex (Male = 1)	.007 (1026)	1.00 (1028)									
3. African American	-.136** (1030)	.107** (1028)	1.00 (1033)								
4. Asian American /Pacific Islander	-.054 (1030)	-.021 (1028)	-.148** (1033)	1.00 (1033)							
5. White	.285** (1030)	-.036 (1028)	-.248** (1033)	-.368** (1033)	1.00 (1033)						
6. Latino	-.161** (1030)	-.027 (1028)	-.205** (1033)	-.304** (1033)	-.509** (1033)	1.00 (1033)					
7. Other American	-.011 (1030)	.000 (1028)	-.064* (1033)	-.094** (1033)	-.158** (1033)	-.130** (1033)	1.00 (1033)				
8. White male	.184** (1029)	.472** (1028)	-.149** (1032)	-.221** (1032)	.602** (1032)	-.306** (1032)	-.095** (1032)	1.00 (1032)			
9. Years of school completed	.078** (1021)	-.020 (1019)	-.065** (1024)	.123** (1024)	.206** (1024)	-.302** (1024)	.017 (1024)	.101** (1023)	1.00 (1024)		
10. Involvement with garden	.417** (1023)	.108** (1022)	-.074* (1026)	-.010 (1026)	.164** (1026)	-.112** (1026)	-.002 (1026)	.144** (1025)	.107** (1017)	1.00 (1026)	
11. Support RW as choice	-.017 (1024)	**-.021 (1022)**	**-.012 (1027)**	-.035 (1027)	**.019 (1027)**	.018 (1027)	.009 (1027)	**-.002 (1026)**	.067* (1019)	-.088** (1021)	1.00 (1027)

* - $p < .05$; ** - $p < .01$

None of the hypotheses is supported because none of the results observed is statistically significant. Other observations are discussed in the next section. Furthermore, forward multiple regression is conducted to determine which variables from the independent variables are predictors of support for the use of recycled water as a choice in community garden programs. Regression results indicate an overall model of two predictors ("Years school completed" and "Involvement with community garden program") that significantly predict support for the use of recycled water as a choice in community garden programs. A summary of the regression model is presented in Table 10.

Table 10. Multivariate regression model summary

Independent variables	*Regression Model*
Age (AGE)	.007 (.025) *.010*
Sex (Male = 1)(MALE)	-.017 (.091) *-.007*
African American (AFA)	-.052 (.156) *-.013*
Asian American/Pacific Islander (API)	-.134 (.123) *-.045*
Latino (LAT)	.041 (.116) *.016*
Other American (OAM)	-.041 (.206) *-.007*
White Male (WM)	-.018 (.144) *-.006*
Years of school completed (EDU)	.374** (.013) *.093*
Involvement with garden program (INVL)	-.124** (.041) *-.105*
Intercept	2.402*** (.247)
R^2	.018
Adjusted R^2	.009
N	1007

** - $p < .01$; *** - $p < .001$

It is ordered by unstandardized beta coefficients, (standard errors in parentheses), and standardized beta coefficients in *italics*. With the "white" dummy variable omitted, it yields the following formula *(statistically significant predictors in italics)*: $\hat{Y}$ = *2.402* + .010*AGE – .007*MALE – .013*AFA – .045*API + .016*LAT – .007*OAM – .006*WM + *.093*EDU – .105*INVL.*

DISCUSSION

Results from Hypotheses Tests

From the fact that Hypothesis 1 is not supported, we cannot state conclusively that women are more likely than men to support the use of recycled water as a choice in community garden programs. Our intuition is proven incorrect and the results are in line with those Stets and Biga (2003: 418 – 419) found in their studies. There is no significant link between one's membership in a gender category and this particular environmental attitude of supporting the use of recycled water as a choice in community garden programs.

As a matter of fact, none of the five racial categories tested as dichotomous dummy independent variables shows any statistically significant correlation with the attitude toward the use of recycled water as a choice in community garden programs, as was the case with gender, which undermines the merit of this study to test the validity of Identity Theory. The results from the Hypothesis 2 test indicates that African Americans are no more or no less supportive of the use of recycled water as a choice in community garden programs than are whites. The statistically insignificant numbers seem to indicate that there is a negative correlation among the African American respondents, meaning they tend to support less, but no conclusion can be drawn. Combined together, Hypotheses 1 and 2 indicate that this study might not have a strong applicability to test Identity Theory.

The notion that the importance of gender differences in altruism as a basis for gender differences in environmentalism (Dietz, Kalof, and Stern, 2002) does not seem to

hold any validity in this study either. Moreover, Tronto's (1987) argument that the moral views of women and minorities are similar, perhaps because of similar circumstances of social subordination cannot be proven in this study when we employ as the dependent variable the attitude toward the use of recycled water as a choice in a community garden program.

It is highly possible that the statistically insignificant outcomes for support for the use of recycled water exist because the dependent variable here was simply not relevant or salient enough for many respondents, as most might not have cared much about the community garden programs and the use of recycled water one way or the other because they are not gardeners. In order to make the survey more salient, we could have begun the SAQ with more broad and salient questions about the issues dealing with possible uses of recycled water such as for saving public tax money, industrial and manufacturing purposes, watering public parks, lawns, gardens, agriculture, irrigating crops, growing produce, etc. We could have then used these questions as dependent variables to make them more salient to the respondents. We could have also incorporated better measures of identity to test the theory more rigorously. These might include questions that serve as indicators of meanings attached to self.

Even in the Hypothesis 3 test, we cannot infer that white males are more likely or less likely to support the use of recycled water than either women or nonwhites. Again in this regard, Flynn, Slovic, and Mertz's (1994) finding that white men perceive environmental risks as substantially lower than either women or nonwhites cannot be verified in this study. One possible explanation for this series of negative outcomes in

this study is that there might be an uninformed disconnect in the minds of the respondents that the use of recycled water squarely falls under the purview of pro-environmental attitudes. In other words, the respondents could not understand that the ultimate aim of using recycled water is to protect the environment. It is possible that the three hypotheses are not confirmed because the use of recycled water in the gardens is simply not salient for or relevant to most of the respondents. The survey asks about recycled water use in a number of contexts, but our dependent variable – and its specific reference to the leased gardens – is too specialized or narrow for most respondents to care about. The results could have been different if the population/sample had been redefined to include *only* those with an interest in gardening and/or actual connections to the community garden programs. While the general public may have had predictable opinions about the use of recycled water in such locations as parks, lawns, and monuments, or to grow produce for widespread consumption, and about its use in ways that might affect them personally, perhaps the respondents just could not relate in any predictable ways to its use in a more obscure context such as this one. Analyzed in this sense, the views of those with some sort of gardening connection would have been different from what we find in this study.

Perhaps this is a classic case of "ecological fallacy" (Robinson, 1950). The mixing of units of analysis – in this case, the broad pro-environmental attitudes and the narrow attitude towards the use of recycled water as a choice in community garden programs – may result in this fallacy. It can be erroneous to assume that just because a group is purported to be pro-environment, the group also expresses a supportive attitude toward the use of recycled water in community garden programs, rather than attitudes

typical to a more broad ideological movement. Ecological fallacies also occur when relationships between properties of groups or geographic areas are used to make inferences about the individual behaviors of the people within those groups or areas (Singleton and Straits, 1999: 69).

Tables 9 and 10 show that the only statistically significant predictors for a supportive attitude toward the use of recycled water in community garden programs are the years of school completed and the involvement with community garden programs. It is noteworthy that the level of involvement with the community garden programs actually has a *negative* coefficient, meaning the higher the level of involvement, the lower the support for the use of recycled water. Although this seems to be intuitively plausible given the fact that a higher level of education might foster awareness of this obscure topic, it is counterintuitive that the involvement with community garden programs lowers the support for recycled water use. This puzzling outcome will be clarified with a cross-tabulation table showing the percentage breakdowns for gardeners' support for the use of recycled water in community garden program in Supplementary Analyses section. Although this is a fine point, the results from the bivariate and multivariate regression analyses indicate that a higher level of involvement in the community garden programs actually *lowers* the support for the use of recycled water and that those respondents who identified themselves as being "gardeners" do not mean the same as those respondents with higher levels of involvement in the community garden programs. Here the "gardener" population derives from Question 7 and comprises of anyone who either grows food, gardens, or both. The regression analyses show that those with a higher level

of involvement in the community garden programs - but not necessarily "gardeners" - are more likely to be white male, older, and have higher number of years of school. It is unfortunate that the adjusted R^2 value in the multivariate regression model is only at 1%, undermining the strength of any prediction.

The recycled water issue clearly falls under the purview of the environmental sociology. A 1999 study by a group of researchers at George Mason University found that African Americans and women are two of the demographic statues that increase the likelihood of a person identifying him- or herself as a vegetarian due to environmentally beneficial beliefs (Kalof, Dietz, Stern, and Guagnano, 1999). Kalof et al., in their regression analysis of values and demographics on vegetarian beliefs, found that "female" characteristic increased the likelihood of a respondent identifying herself as a vegetarian by a factor of 1.56 on the account of environmentally beneficial reasons and "black" by a factor of 3.34 (Kalof et al., 1999: 507). Our findings in this study, however, do not concur with the findings of Kalof et al. African Americans are not more likely to be supportive of the use of recycled water, a critical environmental issue, than any other groups, and men, especially, white men, are no more likely to be supportive of the use of recycled water than any other groups. Kalof et al.'s theorizing (1999) that these two groups are acutely aware of the grave consequences of reckless plundering of the environment precisely on the account of their historic sufferings and their close identification with the disenfranchised cannot be substantiated in this study.

We now turn to Supplemental Analyses to discuss some other key findings in this study. These will be useful in forging an effective marketing campaign. They will also show which medium ought to be used to advertise the benefits of recycled water uses.

Supplemental Analyses

Analysis of Sampling

As was expected of any nonprobability convenience sampling, the results show that the sampling in this study achieved only slight accuracy in representing the target population. In comparing the key indices – sex/gender, age, race/ethnicity, and education percent numbers – with *the 2000 U. S. Census* figures, the percentage differences ranged from - 8.6 to +22.3. These differences obviously exceed the expected sample error of ±3.2396 as shown in Appendix C. Of the twenty percentage differences observed, only twelve came within the expected range of ±3.2396. These wide differences might be attributable to the fact that *the 2000 U. S. Census* figures represent the those numbers from the City of San José proper whereas the data for this study come from much more localized target area. The *U. S. Census* figures are compared twice, first with those from the City of San José proper and again with those from the County of Santa Clara. The ambiguous definitions of "gardeners" between Michele Young's 2000 – 2001 data and this study also might have resulted in the large differences. In this study, "gardeners" are defined as all respondents who either grow food, garden, or both as recorded in Question 7. In Michele Young's 2000 – 2001 data, they were defined as all respondents who had plots in community gardens programs and who actually gardened at those sites.

Table 11. Comparisons of gender percent numbers between *the 2000 U. S. Census* on San José and our data; and between Michele Young's data and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*	Percent of gardeners as reported in Michele Young's data	Percent of gardeners as in our data	*Difference*
Male	50.8	49.9	- 0.9	66.9	47.9	- 19.0
Female	49.2	49.7	+0.5	33.1	52.1	+19.0
Missing	-	0.5	-	-	-	-
Total	100	100	-	100	100	-

Table 12. Comparisons of age percent numbers between *the 2000 U. S. Census* on San José and our data; and between Michele Young's data and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*	Percent of gardeners as reported in Young's data	Percent of gardeners as in our data	*Difference*
Under 24	36.4	29.6	- 6.8	0.3	11.5	+11.2
25 – 34	18.0	22.7	+4.7	5.4	18.1	+12.7
35 – 44	17.4	17.7	+0.3	15.3	22.2	+6.9
45 – 54	12.4	14.4	+2.0	24.6	22.0	- 2.6
55 – 64	7.6	8.2	+0.6	22.6	14.0	- 8.6
65 – 74	4.7	4.5	- 0.2	21.2	7.4	-13.8
75 – 84	2.7	2.0	- 0.7	7.0	3.9	- 3.1
85 or over	0.9	0.5	- 0.4	5.2	0.8	- 4.4
Missing	-	0.5	-	-	-	-
Total	100	100	-	100	100	-

Table 13. Comparisons of race/ethnic percent numbers between *the 2000 U. S. Census* on San José and our data; and between Michele Young's data and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*	Percent of gardeners as reported in Young's data	Percent of gardeners as in our data	*Difference*
Afr. Am	3.3	9.1	+5.8	3.0	3.8	- 0.8
As Am/ PI	26.6	18.0	- 8.6	17.6	18.2	+0.6
White	36.0	38.1	+2.1	45.8	49.5	+3.7
Latino	30.2	29.6	- 0.6	27.4	25.1	- 2.3
Other	3.9	3.9	0	6.2	3.5	- 2.7
Missing	-	1.3	-	-	-	-
Total	100	100	-	100	100	-

Table 14. Comparisons of education percent numbers between *the 2000 U. S. Census* on San José and our data; and between Michele Young's data and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*	Percent of gardeners as reported in Young's data	Percent of gardeners as in our data	*Difference*
≤ 9th grade	6.7	4.2	- 2.5	24.0	4.6	-19.4
HS or equiv.	20.1	20.9	+0.8	18.6	18.3	-0.3
Some college	14.0	36.3	+22.3	20.7	27.9	+7.2
College degree	16.3	23.1	+6.8	22.5	27.7	+5.2
Advanced degree	4.8	14.6	+9.8	13.5	21.6	+8.1
Missing	-	0.9	-	-	-	-
Total	100	100	-	100	100	-

In comparing the key indices with *the 2000 U. S. Census* on the County of Santa Clara, the data in this study still show a wide range of differences ranging from –12.5 to +9.3. Although this range is diminished considerably, of the sixteen percentage differences observed, only seven (or 43.75%) come in within the expected difference of ±3.2396.

Table 15. Comparisons of gender percent numbers between *the 2000 U. S. Census* on Santa Clara County and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*
Male	50.7	49.9	- 0.9
Female	49.3	49.7	+0.5
Missing	-	0.5	-
Total	100	100	-

Table 16. Comparisons of age percent numbers between *the 2000 U. S. Census* on Santa Clara County and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*
Under 24	34.0	29.6	- 4.4
25 – 44	35.4	40.4	+5.0
45 – 64	21.0	22.6	+1.6
64 or over	9.5	7.0	- 2.5
Missing	-	0.5	-
Total	100	100	-

Note:
The eight different original categories in our data are collapsed into four to make the comparison possible.

Table 17. Comparisons of race/ethnic percent numbers between *the 2000 U. S. Census* on Santa Clara County and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*
Afri. Am	2.8	9.1	+5.8
AsiAm/ PI	25.9	18.0	- 8.6
White	53.8	38.1	+2.1
Latino	24.0	29.6	+5.6
Other	12.8	3.9	- 8.9
Missing	-	1.3	-
Total	119.3	100	-

Notes:

1. In *the 2000 U. S. Census,* the figures exceed 100% because the "Latino" category corresponds to the "Hispanic or Latino" category, which does not specify the race.
2. In *the 2000 U. S. Census,* the "Other" category is comprised of the "American Indian and Alaska native" and "Some other race" categories.

Table 18. Comparisons of education percent numbers between *the 2000 U. S. Census* on Santa Clara County and our data

	Percent as reported in *2000 U. S. Census*	Percent as reported in our data	*Difference*
$\leq 9^{th}$ grade	16.7	4.2	- 12.5
HS or equiv.	15.9	20.9	+5.0
Some college	27.0	36.3	+9.3
College degree	24.0	23.1	- 0.9
Advanced degree	16.4	14.6	-1.8
Missing	-	0.9	-
Total	100	100	-

This study was conducted in the middle of the first decade in a new millennium in an area known to be one of the most mobile and dynamic in the world. The wide fluctuations shown between the data from *the 2000 U. S. Census* and our data can be attributed to the fact that the U. S. Censuses are administered only once at the beginning of a decade. Thus, *the 2000 U. S. Census* is already five years old, and it might not reflect the current reality in 2005, especially in the ever-changing City of San José.

Thus, a few suggestions can be made for the second longitudinal study proposed in 2006. First, a cluster random sampling method might produce a data set that is a lot more in alignment with the *2000 U. S. Census* data. Second, in order to make the longitudinal study more accurate, a substantially modified questionnaire should be administered, as suggested in different parts of this study. Third, a "gardener" population can be set aside for a more accurate comparative analysis with the general population. This means that a precise definition of a "gardener" must be predetermined, and if possible, a question that determines who is a "gardener" be included in the questionnaire. In this study, "gardeners" are defined as all respondents who either grow food, garden, or both as recorded in Question 7. This working definition of "gardeners" produced wide discrepancies when compared against Michele Young's thesis data. A more exact definition might have minimized the wide differences. From Question 1 (INVOLVEMENT WITH COMMUNITY GARDEN PROGRAM?), a sub-sample of plot lessees - only 118 out of 1,033 respondents (11.4%) in the sample - could have been labeled as "gardeners," and they could have been compared to Young's data instead, but this was not done because such comparison was beyond the pale of this study. "Plot lessees" might have produced better percentage matches with Michele Young's working definition of "gardeners," but this is just speculative, and since this study's main purpose is to discover sociological factors that correlate with the support of recycled water uses, no more efforts are made to exact the definition of "gardeners" from the data set.

Gardener versus Non-Gardeners

In order to identify the target population more accurately and to better understand its demographic compositions, several cross-tabulations are conducted. In this study the "gardener" population is defined as those who either garden, grow food, or both as reported in Question 7. The gardener population is subdivided by years of school completed as shown below:

Table 19. Cross-tabulation analysis of the relationship between gardening as hobby and level of education
(GARDEN, GROW FOOD AS HOBBY? * YEARS OF SCHOOL COMPLETED CROSSTABULATION)

YEARS OF SCHOOL COMPLETED	GARDENERS	NON-GARDENERS
< 9	22 (4.6%)	21 (3.9)
9 – 12	88 (18.3)	127 (23.5)
13 – 15	134 (27.9)	241 (44.5)
College degree	133 (27.7)	106 (19.6)
Advanced degree	104 (21.6)	46 (8.5)
	481 (100.0)	541 (100.0)

Notes:
1. "< 9" includes all responses less than "9."
2. "9 - 12" means "High School or equivalent" and includes the responses from "9," "10," "11," to "12."
3. "13 - 15" means "Some college" and includes the responses from "13," "14," and "15."
4. "College degree" means "16."
5. "Advanced degree" includes all responses over "16."

Furthermore, this gardener population is subdivided by age as shown below.

Table 20. Cross-tabulation analysis of the relationship between gardening as hobby and age (GARDEN, GROW FOOD AS HOBBY? * AGE CROSSTABULATION)

AGE	GARDENERS	NON-GARDENERS
Under 24	56 (11.5%)	249 (45.9)
25 – 34	88 (18.1)	147 (27.1)
35 – 44	108 (22.2)	74 (13.7)
45 – 54	107 (22.0)	42 (7.7)
55 – 64	68 (14.0)	17 (3.1)
65 or over	59 (12.1)	13 (2.4)
	486 (100.0)	542 (100.0)

Note:
"Under 24" includes the "Under 18" and "18 - 24" categories, and "65 or over" includes the "65 – 74," "75 – 84," and "85 or over" categories.

A subdivision among the gardener population by sex or gender is also administered to better understand this population as shown below:

Table 21. Cross-tabulation analysis of the relationship between gardening as hobby and sex/gender (GARDEN, GROW FOOD AS HOBBY? * SEX/GENDER CROSSTABULATION)

SEX/GENDER	GARDENERS	NON-GARDENERS
Male	231 (47.9%)	282 (51.8)
Female	251 (52.1)	262 (48.2)
	482 (100.0)	544 (100.0)

Cross-tabulating the gardener population with race or ethnicity indicates that nearly half of this population (49.5%) comes from the white category.

Table 22. Cross-tabulation analysis of the relationship between gardening as hobby and race/ethnicity (GARDEN, GROW FOOD AS HOBBY? * RACE/ETHNICITY CROSSTABULATION)

RACE/ETHNICITY	GARDENERS	NON-GARDENERS
African American	18 (3.8%)	75 (13.9)
Asian American/P. I.	87 (18.2)	99 (18.4)
White	237 (49.5)	157 (29.1)
Latino	120 (25.1)	185 (34.3)
Other	17 (3.5)	23 (4.3)
	479 (100.0)	539 (100.0)

While involvement in community garden programs has a negative effect on support for the use of recycled water in community garden programs as shown in multivariate regression analysis above, a cross-tabulation between gardeners and non-gardeners with support for the use of recycled water shows that the majority (61.2%) of those respondents who identify themselves as being gardeners support its use. To explain this apparent contradiction, we must note the fine difference between those with higher "level of involvement in community garden programs" from Question 1 and the respondents who identify themselves as being "gardeners" from Question 7. Those with higher levels of involvement in community garden programs represent those who already have plots now or are on waiting list. On the other hand, the respondents who identify themselves as being "gardeners" may likely represent those with no direct connections to community garden programs, but who either grow food, garden, or both on their own, or possibly in a community garden program, thus these two populations are not the same, but they may still represent some overlapping number of respondents. One possible way of interpreting this contraction is that those respondents with higher levels of involvement in community garden programs - at least on this survey - do support the use of recycled water less because of their negative experience with it while those who identify themselves as being gardeners may not have had any negative experience yet because they have not tried it, or still do not have any familiarity with it, except what is generally known as positive such as environmental benefits, cost savings, and rich nutrition elements for plants. In other words, familiarity with the use of recycled water that comes

with high levels of involvement in community garden program may in fact decrease the support for it.

Table 23. Cross-tabulation analysis of the relationship between gardening as hobby and support of recycled water as choice in community garden programs (GARDEN, GROW FOOD AS HOBBY? * SUPPORT RW AS CHOICE IN GARDENS CROSSTABULATION)

SUPPORT RW AS CHOICE IN GARDENS	GARDENERS	NON-GARDENERS
Oppose	67 (13.9%)	49 (9.0)
Not sure	120 (24.8)	179 (33.0)
Support	106 (21.9)	146 (26.9)
Strongly support	190 (39.3)	168 (31.0)
	483 (100.0)	542 (100.0)

Marketing Recycled Water

Listed below are some key findings, which should help formulate marketing strategies for recycled water.

Key Finding 1: Figures from the study indicate that the majority of the respondents (52.8%) do not garden as hobby at all, and the vast majority of the respondents (80.3%) have never had any connection to the community gardens program. Also, the majority of the respondents (50.3%) have heard very little or not at all about recycled water.

Table 24. Summary of key figures

	Number of Respondents	Percent
Currently have a plot in a garden (Question 1)	118	11.4%
No connection to the program (Question 1)	829	80.3%
Do not garden as a hobby (Question 7)	544	52.8%
Very little or no awareness of recycled water (Question 8)	519	50.3%

Key Finding 2: One of the main research questions is to identify the specific fear factor of the public. The top five leading concerns expressed by the respondents entail a pattern, in which they are uncertain about the safety of recycled water on health, and they are fearful of mistakenly drinking it. This theme is demonstrated as shown below:

Table 25. Top five leading concerns

RANK	CONCERNS OVER RECYCLED WATER	RESPONDENTS WHO ARE SERIOUSLY OR EXTREMELY CONCERNED	PERCENT OF ALL RESPONDENTS
1	Separation from drinking water (Question 24)	775	75.0%
2	Effects on children, pregnant women and elderly (Question 21)	747	72.3%
3	Long term unknown health effects (Question 20)	731	70.8%
4	Ingesting toxics from plants or produce (Question 30)	704	68.1%
5	Proper management (Question 29)	697	67.5%

Key Finding 3: While they expressed strong support overwhelmingly, the specific areas, in which respondents expressed opposition against use of recycled water, are in irrigating crops and growing produce and as individual choice in community gardens.

Table 26. Top four leading opposing uses

RANK	OPPOSITIONS OVER RECYCLED WATER	RESPONDENTS WHO ARE OPPOSED OR STRONGLY OPPOSED	PERCENT OF ALL RESPONDENTS
1	Washing clothes or at Laundromats (Question 14)	292	28.3%
2	Irrigating crops and growing produce (Question 15)	245	23.7%
3	Public fountains, exhibits, displays (Question 11)	184	17.9%
4	As individual choice in community gardens (Question 16)	116	11.2%

Key Finding 4: Overcoming any public fears and oppositions may require a concerted advertising campaign. The respondents signaled that they wish to be informed about recycled water by the three conventional media vehicles, all of which are relatively expensive.

Table 27. Top three best ways to inform the public

RANK	BEST WAY TO INFORM THE PUBLIC (QUESTION 33)	RESPONDENTS WHO ANSWERED "YES"	PERCENT OF "YES" RESPONSES
1	TV	774	74.9
2	Newspaper	596	57.7
3	Radio	527	51.0

Since the majority of the respondents (50.3%) have hardly heard about recycled water, we must employ the AIDA model (Thomas, 1994). This AIDA model assumes relative public ignorance or indifference to the product or service and so sets the following step-wise strategy (Thomas, 1994: 209):

DISINTEREST → ATTENTION → INTEREST → DESIRE → ACTION

From a pragmatic pint of view, the most significant element in the acronym is the second "A." Action – in this case, consumption of recycled water for irrigating crops and

growing produce as an individual choice in community gardens – and without this specific act, any investment in other AIDA elements becomes futile (Thomas, 1994: 209). The marketers of recycled water would have two alternatives available to implement the AIDA model: a pushing strategy or a pulling strategy.

A pushing strategy is sales-oriented approach, whereas a pulling strategy involves attempting to generate consumer demand for recycled water, primarily through advertising appeals (Boone and Kurtz, 2002: 435). The advertising is to be aimed at the ultimate consumer of recycled water, who then signs onto gardens where recycled water is available, or at least ceases to fear recycled water. This strong consumer demand should "pull" recycled water to appropriate community gardens and possibly to other uses.

All media advertisings have their advantages and disadvantages. The three media vehicles that the respondents favored in this study accompany the following pluses and minuses (Boone and Kurtz, 2002: 432):

Table 28. Comparisons of Advertising Media Alternatives

MEDIA OUTLET	ADVANTAGES	DISADVANTAGES
TV	• Mass coverage • Repetition • Flexibility • Prestige	• High cost • Temporary message • Lack of selectivity
Newspapers	• Tailored to individual communities • Readers can refer back to ads	• Short life span
Radio	• Immediacy • Low cost • Flexibility • Targeted audience	• Short life span • Highly fragmented audience by demographics

Recommendations

Because we are in uncharted public opinion territory, we tend to focus on the negative because it is normally negative things that we have to worry about. At worst, the public is overwhelmingly (50.3%) ignorant of the current recycled water use, but those who matter, gardeners, support it by an overwhelming majority (61.2%). Thus, under this mixed message environment, we will first have to bring the public's attention to the emerging population problems and to educate the public about the environmental benefits, the safety, and most of all, as to why we will have to use recycled water in community gardens programs. Rather than drumming up a major public educational campaign regarding a specific and narrow issue with almost no relevance for the general public, as indicated in this study, we could opt for an educational campaign highlighting the benefits of recycled water in a number of uses, the best of which, are those that could save the public a significant amount of tax money. Then we will have to generate interest or even desire to use recycled water among gardeners for irrigating crops and growing crops specifically. We will then be able to make it even fashionable and politically correct to consume recycled water for gardening purposes in community gardens and other uses.

As branding a catchy and positive name is critical to the success of any product or service, instead of "recycled" water, adoption of Kourik's term, "gray" water (1988), might be more advisable. The term, "recycled," has a negative and somewhat mixed connotation in the American language because it is often associated with garbage and uncleanliness, whereas the adjective, "gray," entails neutrality, ambiguity, but stability.

A further marketing research is needed to empirically test the proper name for this consumer product that is recycled water. Some suggest use of the word "renewed." In a print ad or radio commercial, a mascot like "Tony, the tiger," an environmental scientist, or a living testimonial from an actual current gardener in community gardens program can tout the virtues, safety, and advantages of using recycled water.

CONCLUSIONS

An effective implementation of recycled water uses now can help avoid a possible environmental crisis in the future. This is especially true as the population of California is predicted to grow even more by the end of this decade. This is just a matter of supply and demand: As California's population grows, it will eventually reach resource capacity, and the existing fresh water sources will not be able to supply the required amount. There will also be a competition over the fresh water sources between the growing population and farming/ranching interests in the great Central Valley, the richest agricultural heartland of America (Carney and Alcerro, 2003: 30).

A successful implementation of recycled water use by FGRPG in the Guadalupe Gardens will portend an auspicious beginning in allaying or delaying the looming environmental crisis, and it can serve as a model for communities across the United States and the world that foresee increasing population growth and shortages of potable water. As such, it is critical that it be executed with a careful deliberation and a meticulous plan. This study thus attempts to produce as much accurate information as possible so that FGRPG can carry out a proper educational policy. However, because this study is the first of its kind, its results are tentative.

Despite the ambiguity, nevertheless, we can safely infer, based upon our data, that the introduction of recycled water use is somewhat analogous to introduction of a slightly unpopular or completely unknown consumer product in the private sector in a sense that the public is very much skeptical of the long-term health effects and accidental ingestion of recycled water. Just as was the case with yogurt, kiwi, tofu, sushi, and soymilk at

different periods in the recent American consumer history, this initial pubic resistance can be overcome with a sophisticated marketing plan and public education programs. The public must be made acutely aware that only good things result from the use of recycled water in community garden programs.

The fact that this study does not seem to be applicable to test Identity Theory needs more exploration. What is it about the use of recycled water in community garden programs that does not seem to connect with other pro-environmental attitudes? Or what other sociological theories would explain the awareness of this esoteric environmental issue and to be supportive of it? Would it have something to do with the absence of "weak ties" (Granovetter, 1983) between the small gardener population and the larger public in general that hampers the dissemination of ideas and new information about the use of recycled water? Some observe that the gardener population occupies higher status positions in our community because they tend to be older and more highly educated than the general public. Thus, it is speculated that it is their status that ought to be tested as an independent variable, but in order to test this hypothesis, we will have to rethink the applicability of the questions formulated in the SAQ for this study. In order to measure the status level of a respondent, we can add in the second longitudinal study the following questions and use them as alternative independent variables:

- What is your income level?
- What is your occupation?
- Did you grow up in agrarian, rural, suburban, or urban settings?

Furthermore, in order to estimate the motivational level of respondents in respect to their place of residence and their commitment or need to protect the environment in general, following questions can be added:

- How far from the community garden site do you reside?
- How closely do you reside to the Guadalupe River?
- If you applied to participate in the community gardens programs, why do you want to have a plot in the community garden?

Finally, in order to measure the extent to which a respondent identifies herself as an environmentalist, a careful consumer, or a responsible citizen, following four questions could be added:

- How strictly do you adhere to your community's recycling program?
- Do you consider protection of environment an urgent public issue?
- Have you ever deliberately chosen to walk, instead of driving, specifically to save gas or for environmental reasons?
- Do you believe that the concept of "global warming" is real?

If these questions can be added, then the results obtained might be better used as independent variables to retest the hypotheses applicable to Identity Theory and for generating answers to the questions raised earlier. The results from such hypothesis tests might then be used formulate strategies to convince those that are less cognizant and less supportive of the use of recycled water in the future.

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APPENDIX A

SAN JOSE'S COMMUNITY GARDEN POPULATION

(From Michele Young's 2002 thesis; data gathered 2000 - 2001.)

GENERAL

2.5 miles = average distance from home to garden
73% had no garden at home
6.5 years = average time in an SJ garden plot
21 years = average length of time gardened

24% = would have a hard time feeding family without the garden
68% = typically have extra produce to share

Of those with extra:
- 65% give produce to family and/or neighbors
- 33% preserve it for their own future use
- 17% donate some to local food banks
- 12.5% donate some to churches, community centers, etc.

Single, main reasons given for using gardens:

Recreation, relaxation, leisure	30.0%
Enjoy gardening	23.2
Like fresh vegetables	17.8
Sense of community, meeting people	13.0
Wanted to grow organic food	5.7
Family activity, teach kids	4.4
No space or sun at home	3.5
Wanted to contribute to family	2.9

DEMOGRAPHICS

	SAN JOSE	GARDENERS
GENDER		
Male	50.8%	66.9%
Female	49.2	33.1
AGE		
≤ 24 years	36.4 %	0.3%
25-34	18.0	5.4
35-44	17.4	15.3
45-54	12.4	24.6
55-64	7.6	22.6
65-74	4.7	21.2
75-84	2.7	7.0
≥ 85	0.9	5.2
Median age	32.6 years	56.4 years

	SAN JOSE	GARDENERS
ETHNICITY		
African American	3.3%	3.0%
Asian	26.6	17.6
Latino	30.2	27.4
White	36.0	45.8
Other	3.9	6.2
Born outside U.S.	26.4%	49.7%
Language other than English spoken at home	35.3	49.1
HOUSING		
Avg. household size	3.2 people	3.6 people
Owner occupied	61.8%	77.4%
Renter	38.2	22.6
EDUCATION**		
$\leq 9^{th}$ grade	6.7%	24.0%
HS or equivalent	20.1	18.6
Some college	14.0	20.7
College degree	16.3	22.5
Advanced degree	4.8	13.5
ANNUAL HOUSEHOLD INCOME		
$\leq$ $19k	10.0%	17.5%
$20 - 34k	9.0	21.3
$35 - 49k	11.2	19.0
$50 - 64k	7.3	9.2
$65 - 69k	11.3	5.4
$\geq$ $70k	50.8	27.6

APPENDIX B

SURVEY ON RECYCLED WATER USE IN COMMUNITY GARDENS

The first few questions are about your background. Again, we do NOT want to identify you personally or by name. Please check your answers to the questions below. Thank you.

1. Are you now (or have you ever been) involved with San José's community garden program at all?
   - ( ) Used to be, but no longer
   - ( ) Currently have a plot in a garden
   - ( ) On a waiting list for a garden plot
   - ( ) Never had any connection to the program

2. Sex or gender? ( ) Male ( ) Female

3. What is your age? _____

4. Do children under the age of 18 live with you?
   ( ) Yes ( ) Sometimes ( ) No

5. Please circle the last grade/year - or the equivalent - you completed in school.

None	1 2 3 4 5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20
	Grade School	High School	College	Graduate School

6. With which ethnic background do you identify?
   - ( ) African American or black
   - ( ) Asian or Pacific Islander
   - ( ) Euro-American or white
   - ( ) Latino or Hispanic
   - ( ) Other: _____

7. Do you regularly garden as a hobby and/or grow your own food?
   - ( ) Yes, both
   - ( ) Yes, garden only
   - ( ) Yes, grow food only
   - ( ) No, don't do either

8) How much have you heard about recycled water and its uses before?
   - ( ) Very little or nothing
   - ( ) Some information
   - ( ) A great deal – or have even studied it yourself

The rest of the questions ask for your opinions about recycled water and how it might be used. Your honest opinions will help the Friends of Guadalupe River Park & Gardens to develop future gardens.

First, for questions 8-15, please circle how you feel about the use of recycled water (RW)? Would you support or oppose using RW for this purpose in San José?

Please use the following guidelines as you circle your answers …

Strongly support use of RW for this purpose	**Mostly support** use of RW for this	Very **mixed** feelings or **not sure**	**Mostly oppose** use of RW for this	**Strongly oppose** use of RW for this purpose
4	3	2	1	0

	Strongly Support		**Not Sure**		**Strongly Oppose**
8) Industrial, manufacturing purposes	4	3	2	1	0
9) Watering public parks, lawns, & gardens	4	3	2	1	0
10) Public fountains, exhibits, displays	4	3	2	1	0
11) Public toilets, for flushing	4	3	2	1	0
12) To save public money	4	3	2	1	0
13) Washing clothes, laundromats	4	3	2	1	0
14) Agriculture: irrigating crops, growing produce	4	3	2	1	0
15) As an individual choice in community gardens	4	3	2	1	0

State Department of Health officials say recycled water is safe to use on lawns, yards, and food crops. If RW was used to irrigate parks, school grounds, and community gardens in San José, **how concerned would you be about each of the following?**

	Not at all Concerned		**Somewhat Concerned**		**Extremely Concerned**
16) Viruses, bacteria, or germs in the water	0	1	2	3	4
17) Pesticides or toxic material in the water	0	1	2	3	4
18) Where the water came from	0	1	2	3	4
19) Long-term unknown health effects	0	1	2	3	4
20) Effects on certain people: children, pregnant women, the elderly, for example	0	1	2	3	4
21) The reliability of the water treatment process	0	1	2	3	4

	Not at all Concerned		Somewhat Concerned		Extremely Concerned
22) Enough of it being available when needed	0	1	2	3	4
23) Keeping it separate from drinking water	0	1	2	3	4
24) Children playing in it	0	1	2	3	4
25) Getting it on my own skin	0	1	2	3	4
26) Accidentally drinking it	0	1	2	3	4
27) Whether it could cost extra money	0	1	2	3	4
28) The people in charge knowing what they are doing	0	1	2	3	4
29) Ingesting toxics taken up by plants or produce	0	1	2	3	4

30) To your knowledge, is RW used to irrigate any food crops in California now?

( ) Yes ( ) Not sure ( ) No (skip to #32)

↓ ↓

31) About what percentage of all RW used in California would you guess goes to irrigate the state's commercial food crops?

_____

32) What do you think would be the best way to inform the public about approved uses for RW? (Please check all that you would personally see, or read, or listen to.)

( ) Mailed brochures, newsletters
( ) Local newspapers
( ) Television
( ) Radio
( ) Signs or billboards
( ) Community or neighborhood meetings
( ) Other:

_____

Last question ➘

33) What might you want to know about RW in order to feel more comfortable with its use in growing foods you eat?

_____

_____

* * * * * *

For your information, 48% or almost half the RW used in California irrigates the state's commercial food crops.

We very much appreciate your help with our survey. If you have any additional comments about recycled water, especially its use in community gardens, would you share them with us below, please? Thank you.

ENCUESTA SOBRE EL USO DE AGUA RECICLADA EN LOS JARDINES COMUNITARIOS

Las primeras preguntas son acerca de su antepasado. Recuerde que NO queremos identificarle personalmente o por nombre. Por favor marque sus respuestas a las preguntas que siguen. Gracias.

1. ¿Esta usted (o ha estado) envuelto con el programa de los jardines comunitarios de San José?
   ( ) Estuve en el pasado, pero ahora no
   ( ) Actualmente tengo un lote en un jardin
   ( ) En lista de espera para un lote
   ( ) Nunca he tenido conexion con el programa

2. ¿Sexo o genero? ( ) Masculino ( ) Femenino

3. ¿Cual es su edad? _____

4. ¿Hay niños/as menores de 18 años viviendo con usted?
   ( ) Si ( ) A veces ( ) No

5. Por favor encierre en un circulo el ultimo grado/año (o igual a) que usted complete en el escuela.

Ninguno	1 2 3 4 5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20
	Primaria	Secundaria	Colegio	Diplomado

6. ¿Con cual antepasado etnico se identifica?
   ( ) Africano Americano
   ( ) Asiatico o Isleño Pacifico
   ( ) Euro-Americano
   ( ) Latino o Hispano
   ( ) Otro:

7. ¿Usted trabaja en el jardin regularmente como pasatiempo y/o cultiva su propia comida?
   ( ) Si, los dos
   ( ) Si, solamente en el jardin
   ( ) Si, solamente cultivando comida
   ( ) No, ninguna de los dos

8. ¿Cuanto ha oido de agua reciclada y sus usos?
   ( ) Poco o nada
   ( ) Algo de informacion
   ( ) Mucho o he estudiado sobre eso

Las preguntas siguientes son acerca de su opinion sobre agua reciclada y como sera usada. Sus opiniones honestas ayudaran a Los Amigos del Parque y Jardines Rio Guadalupe para desarollar jardines en el futuro.

Primero, par alas preguntas de 8-15, por favor encierre en circulo, como se siente acerca del uso de agua reciclada (AR)? Usted apoyaria o se opondria a el uso de AR para este objetivo en San José?

Por favor use las siguientes guias como vaya encerrando en circulo sus respuestas ...

Vigorosamente apoyo el uso de AR para este objetivo	**Generalmente apoyo** el uso de AR para esto	Sentimientos **mixtos** o no **estoy seguro**	**Generalmente me opongo** el uso de AR para esto	**Vigorosamente me opongo** el uso de AR para esto
4	3	2	1	0

	Vigorosamente Apoyo		**No Estoy Seguro**		**Vigorosamente Opongo**
8) Industria, objetivos fabricados	4	3	2	1	0
9) Irrigacion de parques y jardines publicos	4	3	2	1	0
10) Fuentes y exposiciones publicas	4	3	2	1	0
11) Baños publicos	4	3	2	1	0
12) Para ahorrar dinero publico	4	3	2	1	0
13) Lavar ropas y lavanderias	4	3	2	1	0
14) Agricultura: irrigacion de cosecha y cultivando vegetacion	4	3	2	1	0
15) Como seleccion individual en jardines comunitarios	4	3	2	1	0

Oficiales del Departamento de Salud del estado dicen que agua reciclada es segura para usar en jardines, cultivacion, y cesped. Si AR fue usada para la irrigacion de parques, escuelas, y jardines comunitarios en San José, **¿que tan concerniente estaria usted sobre la siguiente?**

	No estoy concerniente		**Algo concerniente**		**Extremadamente concerniente**
16) Virus, bacteria, y microbios en el agua	0	1	2	3	4
17) Pestecidas o material toxico en el agua	0	1	2	3	4
18) De donde viene el agua	0	1	2	3	4
19) Termino largo de efectos de salud desconocidos	0	1	2	3	4
20) Efectos en cierta gente: por ejemplo, niños/as, mujeres embarazadas, o gente mayor	0	1	2	3	4

21) La seriedad del proceso del tratamiento del agua 0 1 2 3 4

	No estoy concerniente		**Algo concerniente**		**Extremadamente concerniente**
22) Lo suficiente disponible cuando es necesario	0	1	2	3	4
23) Manteniendolo separado del agua para tomar	0	1	2	3	4
24) Niños/as jugando en ella	0	1	2	3	4
25) Que me caiga en mi propia piel	0	1	2	3	4
26) Tomandola accidentalmente	0	1	2	3	4
27) Sea que cueste mas dinero	0	1	2	3	4
28) La gente encargada que sepa lo que este haciendo	0	1	2	3	4
29) Ingeriendo toxicos tomados por las plantas o vegetacion.	0	1	2	3	4

30) ¿De su conocimiento, el AR es usada para la irrigacion de alguna cosecha en California ahora?

( ) Si ( ) No estoy seguro ( ) No (pase a #32)

↓ ↓

31) ¿Como que porcientaje de toda AR usada en California usted adivina es para la irrigacion para la cosecha comercial del estado?

_____

32) ¿Como cree usted que seria el mejor modo de informar al publico acerca de los usos aprovados para el AR? (Por favor marque todo lo que usted personalmente, ve, a leido, o escuchado.)

( ) Cartas enviadas por correo
( ) Periodico local
( ) Television
( ) Radio
( ) Anuncios o carteleras
( ) Juntas de la comunidad

( ) Otro: _____

pregunta final ➘

33) ¿Que le gustaria saber acerca de AR para sentirse mas comfortable con el uso en la cosecha de la comida que usted come?

_____

_____

* * * * * *

Para su informacion, 48% o casi la mitad de AR usada en California riega la cosecha comercial de comida del estado.

Nosotros le agradecemos mucho su ayuda en esta encuesta. ¿Si usted tiene algun comentario adicional acerca de agua reciclada, especialmente en el uso de jardines comunitarios, por favor compartelos con nosotros abajo? Gracias.

APPENDIX C

SAMPLING ERROR ESTIMATION

The rate of sampling error *(e)* is inversely related to the sample size (N) as follows:

N	± Error *(e)*
2,000	2.2 %
1,500	2.6 %
1,000	3.2 %
750	3.6 %
700	3.8 %
600	4.1 %
500	4.5 %
400	5.0 %
300	5.8 %
200	7.2 %
100	10.3 %

The following equations were used to calculate the sampling error numbers, as they appeared on pages 440 ~ 444 of David M. Levine et al.'s *Statistics for Managers, Using Microsoft Excel,* 1999:

Sample Size Determination from the Mean:
The sample size N is equal to the product of the Z value squared and the variance σ^2, divided by the sampling error e squared.

$$N = Z^2\sigma^2 / e^2$$

Sample Size Determination for a Proportion:
The sample size N is equal to Z value squared times the true proportion p, times 1 minus the true proportion p, divided by the sampling error e squared.

$$N = Z^2p(1 - p) / e^2$$

The Z values at different confidence levels are as follows, as printed on page 60 of Brenda McCormack and Elizabeth Hill's *Conducting A Survey: The SPSS Workbook,* 1997:

At 90 %, $Z = 1.645$
At 95 %, $Z = 1.960$
At 99 %, $Z = 2.575$

Since N = 1,033, the sample error number, ±3.2396, was calculated as follows:
1,500 – 1,000 = 500. 3.2 – 2.6 = 0.6. 0.6 divided by 500 is 0.0012. This means that each increment is equal to 0.0012. Therefore, 1,033 – 1,000 = 33, and 0.0012 times 33 is equal to 0.0396. Finally, 3.2 + 0.0396 = 3.2396.

APPENDIX D

CONSENT FORM FOR IRB, WATER SURVEY, IN-PERSON

Agreement to Participate in Research

Investigators: David Asquith, Ph.D., Sociology, San José State University
Ms. Kathleen Muller, Friends of Guadalupe River Park & Gardens

You have been asked to participate in a study of opinions about recycled water being used in a new San Jose community garden. Recycled water is treated wastewater with sediments and impurities removed before reuse. For different uses, there are different levels of treatment. The water's treatment is determined by its final use and by state regulations. It cannot be used for drinking but is often used in industry and agriculture. You will be asked to complete a questionnaire.

While we see no risks to you in completing the survey, there is no compensation for participation, and there may be no direct benefits to you for participating in the study. However, the Friends of Guadalupe River Park & Gardens will use the information you provide to help plan its Community Garden Program and the use of recycled water.

Although the results of this study may be published, no information that could identify you will be included. Please do not put your name on the survey.

Questions about this research may be addressed to Professor David Asquith at (408) 924-5338. Complaints about the research may be presented to Professor Yoko Baba, Chair of the Department of Sociology at (408) 924-5334. Questions about research subjects' rights, or in the event of any research-related injury, please contact Pamela Stacks, Ph.D., and San Jose State's Interim Associate Vice President for Graduate Studies and Research, at (408) 924-7029. You may also contact Ms. Kathleen Muller, Executive Director of the Friends of Guadalupe River Park & Gardens, at (408) 794-1132.

No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose not to participate in the study.

Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. If you decide to participate in the study you are free to withdraw at any time without any negative effect on your relations with either San José's Community Gardens Program or San José State University.

At the time you sign this consent form, you will receive a copy of it for your records, signed and dated by the investigator.

- The signature of a respondent on this document indicates an agreement to participate in the study.
- The signature of the researcher on this document indicates agreement to include the above-named respondent in the research and attestation that the respondent has been fully informed of his or her rights.

_____ _____

Signature Date

_____ _____

Investigator's Signature Date

CONSENT FORM FOR IRB, WATER SURVEY, MAIL OUT

Spring 2005

Dear Sir or Madam,

We are asking for your help in a study on opinions about recycled water being used in a new San Jose community garden. Recycled water is treated wastewater with sediments and impurities removed before reuse. For different uses, there are different levels of treatment. The water's treatment is determined by its final use and by state regulations. It cannot be used for drinking but is often used in industry and agriculture.

Your participation is voluntary. If you decide to participate in the study you are free to withdraw at any time without any negative effect on your relations with either San José's Community Gardens Program or San José State University.

While we see no risks to you in completing the survey, there is no compensation for participation, and there may be no direct benefits to you for participating in the study. However, the Friends of Guadalupe River Park & Gardens will use the information you provide to help plan its Community Garden Program and the use of recycled water.

The results of this study may be published, but any information that could result in your identification will remain confidential. Please do not put your name on the survey.

Questions about this research may be addressed to Professor David Asquith at (408) 924-5338. Complaints about the research may be presented to Professor Yoko Baba, Chair of the Department of Sociology at (408) 924-5334. Questions about research subjects' rights, or in the event of any research-related injury, please contact Pamela Stacks, Ph.D., and San Jose State's Interim Associate Vice President for Graduate Studies and Research, at (408) 924-7029. You may also contact Ms. Kathleen Muller, Executive Director of the Friends of Guadalupe River Park & Gardens, at (408) 794-1132.

Sincerely,

David Asquith, Ph.D.
Associate Professor of Sociology
San José State University

Ms. Kathleen Muller
Executive Director
Friends of Guadalupe River Park & Gardens

(For more information about recycled water, contact South Bay Water Recycling at 408-277-3671 or www.sanjoseca.gov/sbwr/ ... Thank you.)

APPENDIX E
ORIGINAL, RAW FREQUENCIES

GARDEN, GROW FOOD AS HOBBY? (Question 7)

	FREQUENCY	PERCENT	VALID PERCENT
GARDEN + GROW FOOD	248	24.0	24.1
GARDEN	190	18.4	18.4
GROW FOOD	49	4.7	4.8
NEITHER	544	52.7	52.8
Total	1031	99.8	100.0
Missing	2	0.2	
TOTAL	1033	100.0	

KNOW ABOUT RECYCLED WATER? (Question 8)

	FREQUENCY	PERCENT	VALID PERCENT
LITTLE/NOTHING	519	50.2	50.3
SOME	440	42.6	42.6
GREAT DEAL	73	7.1	7.1
Total	1032	99.9	100.0
Missing	1	0.1	
TOTAL	1033	100.0	

SUPPORT RW IN FOUNTAINS, EXHIBITS (Question 11)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY. OPPOSE	106	10.3	10.3
OPPOSE	78	7.6	7.6
NOT SURE	217	21.0	21.2
SUPPORT	227	22.0	22.1
STRONGLY SUPPORT	397	38.4	38.7
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

SUPPORT RW FOR WASHING CLOTHES (Question 14)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY. OPPOSE	159	15.4	15.5
OPPOSE	133	12.9	13.0
NOT SURE	330	31.9	32.2
SUPPORT	189	18.3	18.4
STRONGLY SUPPORT	215	20.8	21.0
Total	1026	99.3	100.0
Missing	7	0.7	
TOTAL	1033	100.0	

SUPPORT RW FOR CROPS, PRODUCE (Question 15)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY. OPPOSE	131	12.7	12.8
OPPOSE	114	11.0	11.1
NOT SURE	268	25.9	26.1
SUPPORT	202	19.6	19.7
STRONGLY SUPPORT	310	30.0	30.2
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

CONCERNED WITH HEALTH EFFECTS OF RW (Question 20)

	FREQUENCY	PERCENT	VALID PERCENT
NOT AT ALL	55	5.3	5.4
SLIGHTLY	54	5.2	5.3
SOMEWHAT	186	18.0	18.1
SERIOUSLY	244	23.6	23.8
EXTREMELY	487	47.1	47.5
Total	1026	99.3	100.0
Missing	7	0.7	
TOTAL	1033	100.0	

CONCERNED WITH RW'S EFFECT ON KIDS, PREG., ELDERLY (Question 21)

	FREQUENCY	PERCENT	VALID PERCENT
NOT AT ALL	49	407	4.8
SLIGHTLY	51	4.9	5.0
SOMEWHAT	183	17.7	17.8
SERIOUSLY	209	20.2	20.3
EXTREMELY	538	52.1	522
Total	1030	99.7	100.0
Missing	3	0.3	
TOTAL	1033	100.0	

CONCERNED WITH SEPARATION FROM DRINKING WATER (Question 24)

	FREQUENCY	PERCENT	VALID PERCENT
NOT AT ALL	55	5.3	504
SLIGHTLY	38	3.7	3.7
SOMEWHAT	156	15.1	15.2
SERIOUSLY	209	20.2	20.4
EXTREMELY	566	54.8	55.3
Total	1024	99.1	100.0
Missing	9	0.9	
TOTAL	1033	100.0	

CONCERNED WITH PROPER MANAGEMENT OF RW (Question 29)

	FREQUENCY	PERCENT	VALID PERCENT
NOT AT ALL	58	5.6	5.7
SLIGHTLY	75	7.3	7.3
SOMEWHAT	195	18.9	19.0
SERIOUSLY	233	22.6	22.7
EXTREMELY	464	44.9	45.3
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

CONCERNED WITH INGESTING TOXICS FROM PLANTS/PRODUCE (Question 30)

	FREQUENCY	PERCENT	VALID PERCENT
NOT AT ALL	62	6.0	6.1
SLIGHTLY	68	6.6	6.6
SOMEWHAT	189	18.3	18.5
SERIOUSLY	245	23.7	23.9
EXTREMELY	459	44.4	44.9
Total	1023	99.0	100.0
Missing	10	1.0	
TOTAL	1033	100.0	

TV INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	232	22.5	23.1
YES	774	74.9	76.9
Total	1006	97.4	100.0
Missing	27	2.6	
TOTAL	1033	100.0	

NEWSPAPER ARTICLES INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	410	39.7	40.8
YES	596	57.7	59.2
Total	1006	97.4	100.0
Missing	27	2.6	
TOTAL	1033	100.0	

RADIO INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	479	46.4	47.6
YES	527	51.0	52.4
Total	1006	97.4	100.0
Missing	27	2.6	
TOTAL	1033	100.0	

MAIL BROCHURES INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	520	50.3	51.7
YES	485	47.0	48.3
Total	1005	97.3	100.0
Missing	28	2.7	
TOTAL	1033	100.0	

SIGNS BILLBOARDS INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	578	56.0	57.5
YES	428	41.4	42.5
Total	1006	97.4	100.0
Missing	27	2.6	
TOTAL	1033	100.0	

COMMUNITY MEETINGS INFORMATIVE (Question 33)

	FREQUENCY	PERCENT	VALID PERCENT
NO	661	64.0	65.7
YES	345	33.4	34.3
Total	1006	97.4	100.0
Missing	27	2.6	
TOTAL	1033	100.0	

Recoded frequencies

In Question 3, the "Under 18" and "18 – 24" categories are recoded as the "Under 24," and the "65 – 74," "75 – 84," and "85 or over" categories are recoded into "65 or over," and there are now only six categories.

AGE (Question 3 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
UNDER 24	306	29.6	29.7
25 – 34	235	22.7	22.8
35 – 44	183	17.7	17.8
45 – 54	149	14.4	14.5
55 – 64	85	8.2	8.3
65 OR OVER	72	7.0	7.0
Total	1030	99.7	100.0
Missing	3	0.3	
TOTAL	1033	100.0	

In Question 5, the recoded "≤ 9 TH GRADE" category includes all responses under "9;" the recoded "HS OR EQUIV." category includes the "9," "10," "11," and "12" categories; the recoded "SOME COLLEGE" category includes the "13," "14," and "15" categories; the "16" category is recoded as the "COLLEGE DEGREE" category; and the recoded "ADVANCED DEGREE" category includes all responses over "16."

YEARS OF SCHOOL COMPLETED (Question 5 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
≤ 9 TH GRADE	43	4.2	4.2
HS OR EQUIV.	216	20.9	21.1
SOME COLLEGE	375	36.3	36.6
COLLEGE DEGREE	239	23.1	23.3
ADVANCED DEGREE	151	14.6	14.7
Total	1024	99.1	100.0
Missing	9	0.9	
TOTAL	1033	100.0	

In Question 7, the "GARDEN ONLY" and "GROW FOOD ONLY" categories are recoded with "BOTH" category, and this recoded category would comprise the "GARDNER" definition in this study.

GARDEN, GROW FOOD AS HOBBY? (Question 7 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
GARDEN + GROW FOOD	487	47.1	47.2
NEITHER	544	52.7	52.8
Total	1031	99.8	100.0
Missing	2	0.2	
TOTAL	1033	100.0	

In Question 11, the "STRONGLY OPPOSE" category is recoded with the "OPPOSE" category.

SUPPORT RW IN FOUNTAINS, EXHIBITS (Question 11 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY OPPOSE	184	17.8	18.0
NOT SURE	217	21.0	21.2
SUPPORT	227	22.0	22.1
STRONGLY SUPPORT	397	38.4	38.7
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

In Question 14, the "STRONGLY OPPOSE" category is recoded with the "OPPOSE" category.

SUPPORT RW FOR WASHING CLOTHES (Question 14 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY OPPOSE	292	28.3	28.5
NOT SURE	330	31.9	32.2
SUPPORT	189	18.3	18.4
STRONGLY SUPPORT	215	20.8	21.0
Total	1026	99.3	100.0
Missing	7	0.7	
TOTAL	1033	100.0	

In Question 15, the "STRONGLY OPPOSE" category is recoded with the "OPPOSE" category.

SUPPORT RW FOR CROPS, PRODUCE (Question 15 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
STRONGLY OPPOSE	245	23.7	23.9
NOT SURE	268	25.9	26.1
SUPPORT	202	19.6	19.7
STRONGLY SUPPORT	310	30.0	30.2
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

In Questions 20, 21, 24, 29, and 30, there are now only three separate categories after recoding: "Slightly," "Somewhat," and "Seriously." In these five questions, the "Extremely" categories are recoded with the "Seriously" categories, and the "Not at all" categories are recoded with the "Slightly" categories because they are numerically too small to stand as separate categories.

CONCERNED WITH HEALTH EFFECTS OF RW (Question 20 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
SLIGHTLY	109	10.5	10.7
SOMEWHAT	186	18.0	18.1
SERIOUSLY	731	70.3	71.2
Total	1026	99.3	100.0
Missing	7	0.7	
TOTAL	1033	100.0	

CONCERNED WITH RW'S EFFECT ON KIDS, PREG., ELDERLY (Question 21– *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
SLIGHTLY	100	9.6	9.8
SOMEWHAT	183	17.7	17.8
SERIOUSLY	747	72.3	725
Total	1030	99.7	100.0
Missing	3	0.3	
TOTAL	1033	100.0	

CONCERNED WITH SEPARATION FROM DRINKING WATER (Question 24 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
SLIGHTLY	93	9.0	9.1
SOMEWHAT	156	15.1	15.2
SERIOUSLY	775	75.0	75.7
Total	1024	99.1	100.0
Missing	9	0.9	
TOTAL	1033	100.0	

CONCERNED WITH PROPER MANAGEMENT OF RW
(Question 29 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
SLIGHTLY	123	12.9	13.0
SOMEWHAT	195	18.9	19.0
SERIOUSLY	697	67.5	68.0
Total	1025	99.2	100.0
Missing	8	0.8	
TOTAL	1033	100.0	

CONCERNED WITH INGESTING TOXICS FROM PLANTS/PRODUCE
(Question 30 – *recoded*)

	FREQUENCY	PERCENT	VALID PERCENT
SLIGHTLY	130	12.6	12.7
SOMEWHAT	189	18.3	18.5
SERIOUSLY	704	68.1	68.8
Total	1023	99.0	100.0
Missing	10	1.0	
TOTAL	1033	100.0	

APPENDIX F
SURVEY LOCATIONS

Workshops/Events in March and April , 2005

Saturday March 26, 2005 –9 AM to Noon (FREE)
Gardening with Natives – Water Efficient Landscape Workshop
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Saturday March 19, 2005--9 AM to Noon (FREE)
Water Efficient Irrigation Design-- Water Efficient Landscape Workshop
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Saturday March 12, 2005 --9 AM to Noon (FREE)
Water-Wise Garden Design --Water Efficient Landscape Workshop
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

Mar 12 - Saturday 10AM – Noon (FREE)
Compost Class
Willows Senior Center
2175 Lincoln Ave @ Curtner; San Jose
Registration 408 918-4640

Mar 26 - Saturday 10AM – Noon (FREE)
Compost Class
Community Center (**Campbell**)
1 W. Campbell Avenue @Winchester Blvd.,
Room 84.
Registration 408 918-4640

Apr 9- Saturday 10AM – Noon (FREE)
Master Compost
Moreland - W. San Jose Community Center
1850 Fallbrook Ave., San Jose
Registration 408 918-4640

Apr 30 - Saturday 10AM – Noon (FREE)
World Garden
4849 Pearl Ave. **San Jose**
Registration 408 918-4640

Saturday, April 2, 2005 9 AM to 3 PM (entrance fee may require, but can stay outside the gate for survey)
Emma Prusch Farm Park

Master Gardeners of Santa Clara County
Eleventh Annual Spring Garden Market

Spring in Guadalupe Garden
Saturday, April 23, 2005 9 AM to 3PM
Columbus Park
Taylor & Spring Street, San Jose
408-298-7657

San Jose Japantown Farmers Market (on going)
Location: Jackson St. between 7th & 8th
Day/time: Sunday 8:30A-12P

Day/time: Saturday 8A-Noon, April -November (on going)
Master Gardener workshop
Location: Minnesota & Lincoln-at elementary school
Phone: 408-353-4293

Nursery Nearby the Community Garden

Orchard Supply Hardware
720 W. San Carlos Street
San Jose, CA 95126

Summer Winds
2460 Winchester Blvd.,
Campbell 95008

Summer Winds
4606 Almaden Expressway
San Jose 95118

Grocery Stores

SAFEWAY
2605 The Alameda
Santa Clara, CA 95050
ph: (408) 244-6873

SAFEWAY
1300 W. San Carlos St.,
San Jose, CA 95126
ph: (408) 882-0999

SAFEWAY
3071 Stevens Creek Blvd.,

Santa Clara, CA 95050
ph: (408) 248-3305

ALBERTSONS
272 E. Santa Clara St.,
San Jose, CA 95113

ALBERTSONS
1792 S. W. Expressway
San Jose, CA 95126

ALBERTSONS
1409 Bird Ave.,
San Jose, CA 95125